

Degrees and Programs

The College of Natural Sciences offers the following undergraduate degrees:

- a. Bachelor of Science and Arts, with majors in astronomy, biology, chemistry, computer science, human development and family sciences, human ecology, nutrition, mathematics, neuroscience, and physics.
- b. Bachelor of Science degrees in astronomy, biochemistry, biology, chemistry, computer science, environmental science, human development and family sciences, mathematics, medical laboratory science, neuroscience, nutrition, physics, public health, statistics and data sciences, and textiles and apparel.
- c. Bachelor of Arts, Plan I, with majors in astronomy, chemistry, computer science, mathematics, and physics.

The Bachelor of Science and Arts degree offers a cross-disciplinary experience for students who want to combine a strong core science experience with coursework in areas such as business, communications, fine arts, and the liberal arts. Students choose a major of up to 55 hours of science and mathematics. Students choose either a transcript-recognized minor outside of the sciences, 15 hours in a field of study outside of sciences, or an 18 to 24 hour transcript-recognized certificate. A full list of the minor and certificate programs offered at the University can be found in [The University section](#) of the *Undergraduate Catalog*.

The Bachelor of Science degrees provide deep exploration of science fields for students preparing for graduate science programs and careers as specialized scientists. The degrees contain between 80 to 90 hours of science and mathematics, and typically have multiple specialized options that reflect niche areas of study.

The Bachelor of Arts, Plan I, is shared with the College of Liberal Arts.

A student may not earn more than one Bachelor of Arts, Bachelor of Science and Arts, or Bachelor of Science in Environmental Science degree from the University. A student may earn only one undergraduate degree in a particular area of study from the College of Natural Sciences. Biology, biochemistry, and neuroscience are considered one area of study. Biochemistry and Chemistry are considered one area of study. A student who holds a Bachelor of Arts or a Bachelor of Science and Arts degree from the University may earn a second major designation in another area of study that will appear on the University transcript.

The title of a graduate's degree appears on his or her diploma, but the major does not. The degree, the major, the transcript-recognized certificate, and the minor appear on the graduate's University transcript. A natural sciences student who wishes to add another major in the college must meet the criterion described in the [Admission and Registration](#) section.

Applicability of Certain Courses

Physical Activity Courses

Physical activity (PED) courses and Kinesiology 119 may not be counted toward a degree in the College of Natural Sciences. However, they are counted as courses for which the student is enrolled, and the grades are included in the grade point average.

ROTC Courses

ROTC units are maintained on campus by the Departments of Air Force Science, Military Science, and Naval Science. Information about each program is available from the chair of the department.

Nine semester hours of designated University of Texas at Austin coursework in air force science, military science, or naval science may be counted toward any degree in the College of Natural Sciences.

Courses Taken on the Pass/Fail Basis

No more than 16 semester hours taken on the pass/fail basis may be counted toward the Bachelor of Arts, Plan I. No more than six semester hours taken on the pass/fail basis may be counted toward the Bachelor of Science and Arts degree and the Bachelor of Science degrees. In general, only electives may be taken on the pass/fail basis. Complete rules on registration on the pass/fail basis are given in the [General Information Catalog](#).

Courses in a Single Field

For the Bachelor of Arts, Plan I, no more than 39 hours may be counted in any one field of study, including the major, unless major requirements state otherwise. Additionally, for the Bachelor of Arts, Plan I, no more than 39 hours may be counted in any one college or school other than the College of Liberal Arts or the College of Natural Sciences.

College Algebra

Algebra courses at the level of Mathematics 301 or the equivalent may not be counted toward a degree in the College of Natural Sciences.

Chemistry

Students seeking the degree of Bachelor of Science in Chemical Engineering or Bachelor of Science in Physics must take The University of Texas at Austin Test for Credit in Chemistry 301 if they were admitted to the University with high school credit in chemistry. Engineering majors in areas other than chemical engineering are also encouraged to take the test. The tests are offered only in Austin. Information about them is available at <https://testingservices.utexas.edu/credit>.

Each student planning to register for a chemistry course should consult an advisor in his or her major area to determine whether specific courses are required.

Computer Science

An undergraduate may not enroll in any computer science course more than once without written consent of an undergraduate advisor in computer science. No student may enroll in any computer science course more than twice. No student may take more than three upper-division computer science courses in a semester without written consent of an undergraduate advisor in computer science.

Mathematics

The Department of Mathematics offers a wide variety of courses both for math majors and for non-majors. Students interested in mathematics as a first or second major should consult the advisors in the Mathematics, Physics, and Astronomy Advising Center, in RLM 4.101.

Course prerequisites are enforced. Most entry-level mathematics courses have an appropriate score on the mathematics placement exam as a prerequisite. In such courses, students must be prepared to present proof of their score immediately after classes have begun; those unable to meet the score will be dropped.

Students may check the current *Course Schedule* or go to the [Department of Mathematics website](#) for details about the prerequisite required for their course.

Students who plan to use transfer credit to meet the prerequisite of a mathematics course must submit an official transcript to the Office of Admissions so that the credit may be added to their official university

record. In addition to sending a transcript, students are encouraged to retain hard copies of their grade reports for proof of prerequisite until their transcripts are processed.

Students who wish to enroll in conference courses in the Department of Mathematics must submit consent of instructor forms to the department before registering. Forms are available in the Advising Center.

The information in parentheses after a course number is the Texas Common Course Numbering (TCCN) designation. Only TCCN designations that are exact semester-hour equivalents of University courses are listed here. Additional TCCN information is given in [Appendix A](#).

Inquiry-Based Learning (IBL)

The goal of inquiry-based learning (IBL) is to help students change from being purely consumers of mathematics to producers of mathematical concepts and proofs. IBL classes give students experience with some aspects of independent research, number theory, analysis, discrete mathematics, introduction to abstract mathematics, geometry, and topology. In IBL classes, students are doing mathematics themselves, including proving mathematical statements, presenting their solutions, critiquing solutions, asking questions, and making conjectures, all of which help students develop deeper learning, persistence, problem-solving skills, and effective thinking skills. Mathematics IBL classes are noted as “Inquiry-based learning format” in the [Course Schedule](#); search for “learning format” using the [Course Schedule](#) keyword search to identify mathematics IBL classes. Some sections of the following courses are taught in an IBL format:

- Mathematics 325K, *Discrete Mathematics*
- Mathematics 328K, *Introduction to Number Theory*
- Mathematics 329F, *Theory of Interest*
- Mathematics 339U, *Actuarial Contingent Payments I*
- Mathematics 339V, *Actuarial Contingent Payments II*
- Mathematics 361K, *Introduction to Real Analysis*
- Mathematics 362K, *Probability I*
- Mathematics 367K, *Topology I*
- Mathematics 378K, *Introduction to Mathematical Statistics*

Concurrent Enrollment

Concurrent enrollment is enrollment simultaneously at the University and at another educational institution or in University Extension. Math and science courses may not be taken concurrently during fall and spring semesters and will not be counted toward a degree unless they are specifically approved in advance by the College of Natural Sciences. The college permits concurrent enrollment during summers without prior approval and during fall and spring semesters with certain restrictions. Students must see their academic advisors to petition for approval. No more than 30 percent of the semester hours required for any degree in the college may be completed online with University Extension.

UTeach-Natural Sciences Teacher Certification

UTeach-Natural Sciences prepares students in the College of Natural Sciences, the Jackson School of Geosciences, and Cockrell School of Engineering for secondary teacher certification in Science, Technology, Engineering, and Mathematics (STEM). However, students in any major at the University may seek STEM teacher certification through UTeach-Natural Sciences.

There are two ways undergraduate students can seek STEM teacher certification through UTeach-Natural Sciences:

- a. Undergraduates can complete the courses for certification as electives within a standard bachelor's degree program.
 - Lists of the required content courses and additional certification requirements, are available in the UTeach-Natural Sciences office and [online](#).
- b. Undergraduates can consider the teaching options in [biology](#), [chemistry](#), [geological sciences](#), [mathematics](#), and [physics](#) degree programs.
 - This option is strongly encouraged because these majors incorporate all courses required for teacher certification.

Degree holders and qualifying seniors may apply for the UTeach Accelerate track to teacher certification. This track has the same requirements as the undergraduate track, but in a more compressed form with class sections offered at non-traditional times. UTeach Accelerate is limited to degree-holders and seniors with no more than two (2) long semesters left to earn the undergraduate degree. In addition to admission to The University of Texas at Austin, students must be accepted into the UTeach Accelerate track.

The application requires the following:

- application form
- resume
- two letters of recommendation
- transcript
- essay
- interview

The courses required for teacher certification include a minimum of 30 field-based experience (FBE) hours prior to the clinical teaching experience. All students in these field experience courses, UTeach-Natural Sciences 101, 110, 211 (restricted to students on the Accelerate track), Curriculum and Instruction 365C, 365D, 365E, 665 (restricted to students on the Accelerate track), which are part of the Professional Development Sequence, are observed by and receive feedback from highly-qualified Professors of Practice and select in-service educators throughout each semester. Students must pass the field experience in order to pass these courses. During clinical teaching, UTeach-Natural Sciences 170, Curriculum and Instruction 651S, and UTeach-Natural Sciences 171 (2nd semester interns only) supervision and feedback are provided by Professors of Practice, field supervisors, and the cooperating teacher.

Upon transcript review, students on the Accelerate track may be required to take additional content courses so that they are prepared to pass the State-required certification exams and so that they meet State standards for secondary educators in the classroom. This review is conducted by faculty in the specific disciplines.

To complete the UTeach program and be recommended for teacher certification at the secondary level in the State of Texas, the student must have a University grade point average of at least 2.50. The student must have earned a grade of at least C- in each of the professional development courses and supporting courses listed below and must pass the final teaching portfolio review. Students on the Accelerate track must pass the UTeach Observation Protocol (UTOP) evaluation.

State of Texas teacher certification requirements are governed by the Texas Education Agency and are subject to change. Students must adhere to current teacher certification requirements, even if they differ from those listed in the University catalogs.

Undergraduate Professional Development Sequence

All students seeking teacher certification must complete the following courses:

Requirements		Hours
UTS 101	Secondary Teacher Education Preparation: Step 1	1
UTS 110	Secondary Teacher Education Preparation: STEP 2	1
UTS 170	Student Teaching Seminar	1
EDC 651S	Topics in Secondary School Teaching Practicum	6
EDC 365C	Knowing and Learning in Math and Science	3
EDC 365D	Classroom Interactions	3
EDC 365E	Project-Based Instruction	3

Supporting Courses

Requirements		Hours
One of the following:		3
BIO 337	Selected Topics in Biology (Topic 2: Research Methods: UTeach)	
CH 368	Advanced Topics in Chemistry (Topic 1: Research Methods: UTeach)	
PHY 341	Selected Topics in Physics (Topic 7: Research Methods: UTeach)	
One of the following:		3
HIS 329U	Perspectives on Science and Mathematics	
PHL 329U	Perspectives on Science and Mathematics	

UTeach Accelerate Professional Development Sequence

All students seeking teacher certification must complete the following courses:

Requirements		Hours
UTS 211	Secondary Teacher Education Prep: Advanced Steps	2
EDC 365C	Knowing and Learning in Math and Science	3
EDC 665	Classroom Interactions and Project Based Instruction	6
UTS 170	Student Teaching Seminar	1
EDC 651S	Topics in Secondary School Teaching Practicum	6

Supporting Courses

Requirements		Hours
One of the following:		3
BIO 337	Selected Topics in Biology (Topic 2: Research Methods: UTeach)	
CH 368	Advanced Topics in Chemistry (Topic 1: Research Methods: UTeach)	

PHY 341	Selected Topics in Physics (Topic 7: Research Methods: UTeach)	
One of the following:		3
HIS 329U	Perspectives on Science and Mathematics	
PHL 329U	Perspectives on Science and Mathematics	

Interested undergraduate students are encouraged to start the program at any time during their undergraduate careers. Students must be considering a teaching career in secondary science, computer science, mathematics, and/or engineering, and must meet grade point average requirements. Students interested in the Accelerate track are encouraged to make an advising appointment by calling 512-232-2770 to review eligibility requirements. Students interested in teaching earlier grades should consult the College of Education. See [Preparation for Teacher Certification](#) for additional information.